# III.C. MIGRATION AND URBANIZATION

## III.C.1. A Model of Rural–Urban Migration*

I would like to set forth briefly a theoretical framework which yields some important insights into the causes and mechanisms of rural-urban migration in tropical Africa. I believe that the model can usefully serve two purposes: first, to demonstrate why the continued existence of rural-urban migration in the face of rising levels of urban unemployment often represents a rational economic decision from the point of view of the private individual; and second, to demonstrate how such a theoretical framework can be used in an analysis and evaluation of alternative public policies to alleviate the growing urban unemployment problem.

The basic behavioural assumption of the model is that each potential migrant decides whether or not to move to the city on the basis of an implicit, "expected" income maximisation objective. There are two principal economic factors involved in this decision to migrate. The first relates to the existing urban-rural real wage differential that prevails for different skill and educational categories of workers. The existence of large disparities between wages paid to urban workers and those paid to comparably skilled rural labourers has long been recognised as a crucial factor in the decision to migrate. The increasing divergence between urban and rural incomes has arisen both as a result of the relative stagnation of agricultural earnings (partly as a direct outgrowth of post-war bias toward industrialisation at the expense of agricultural expansion) and the concomitant phenomenon of rapidly rising urban wage rates for unskilled workers.

The second crucial element, which for the most part has not been formally included in other models of rural-urban migration, relates to the degree of probability that a migrant will be successful in securing an urban job. Without introducing the probability variable it would be extremely difficult to explain the continued and often accelerated rate of migration in the face of sizeable and growing pools of urban unemployed. Arguments about the irrationality of rural peasants who unwittingly migrate to urban areas permeated by widespread unemployment are as ill-conceived and culture-bound as earlier assertions that peasant subsistence farmers were unresponsive to price incentives. The key, in my opinion, to an understanding of the seemingly paradoxical phenomenon of continued migration to centres of high unemployment lies in viewing the migration process from an "expected" or permanent income approach where expected income relates not only to the actual wage paid to an urban worker, but also to the probability that he will be successful in securing wage employment in any given period of time. It is the combination and interaction of these two variables—the urban-rural real income differential and the probability of securing an urban job—which I believe determine the rate and magnitude of rural-urban migration in tropical Africa.

Consider the following illustration. Suppose the average unskilled or semi-skilled rural worker has a choice between being a farm labourer (or working his own land) for an annual average real income of, say, 50 units, or migrating to the city where a worker with his skill or educational background can obtain wage employment yielding an annual real income of 100 units. The more commonly used economic models of migration, which place exclusive emphasis on the income differential factor as the determinant of the decision to migrate, would indicate a clear choice in this situation. The worker should seek the higher-paying urban job. It is important to recognise, however, that these migration models were developed largely in the context of advanced industrial economies and, as such, implicitly assume the existence of full employment or near-full employment. In a full employment environment the decision to migrate can in fact be predicated solely on securing the highest-paying job wherever it becomes available. Simple economic theory would then

*Michael P. Todaro, "Income Expectations, Rural-Urban Migration and Employment in Africa," *International Labour Review*, Vol. 104, No. 5 (November 1971), pp. 391–95, 411–13, 

indicate that such migration should lead to a reduction in wage differentials through the interaction of the forces of supply and demand, both in areas of out-migration and in points of in-migration.

Unfortunately, such an analysis is not very realistic in the context of the institutional and economic framework of most of the nations of tropical Africa. First of all, these countries are beset by a chronic and serious unemployment problem with the result that a typical migrant cannot expect to secure a high-paying urban job immediately. In fact, it is much more likely that upon entering the urban labour market the migrant will either become totally unemployed or will seek casual and part-time employment in the urban traditional sector. Consequently, in his decision to migrate the individual in effect must balance the probabilities and risks of being unemployed or underemployed for a considerable period of time against the positive urban-rural real income differential. The fact that a typical migrant can expect to earn twice the annual real income in an urban area than he can in a rural environment may be of little consequence if his actual probability of securing the higher-paying job within, say, a one-year period is one chance in five. In such a situation we could say that his actual probability of being successful in securing the higher-paying urban job is 20 percent, so that his "expected" urban income for the one-year period is in fact 20 units and not the 100 units that the fully employed urban worker receives. Thus, with a one-period time horizon and a probability of success of 20 per cent it would be irrational for this migrant to seek an urban job even though the differential between urban and rural earnings capacity is 100 percent. On the other hand, if the probability of success were, say, 60 percent, so that the expected urban income is 60 units, then it would be entirely rational for our migrant with his one-period time horizon to try his luck in the urban area even though urban unemployment may be extremely high.

If we now approach the situation more realistically by assuming a considerably longer time horizon, especially in view of the fact that the vast majority of migrants are between the ages of 15 and 23 years, then the decision to migrate should be represented on the basis of a longer-term, more permanent income calculation. If the migrant anticipates a relatively low probability of finding regular wage employment in the initial period but expects this probability to increase over time as he is able to broaden his urban contacts, then it would still be rational for him to migrate even though expected urban income during the initial period or periods might be lower than expected rural income. As long as the present value of the net stream of expected urban income over the migrant's planning horizon exceeds that of the expected rural income, the decision to migrate is justified.

Our model attempts to demonstrate the conditions under which the urban-rural "expected" income differential can act to exacerbate the urban *unemployment* situation even though urban *employment* might expand as a direct result of government policy. It all depends on the relationship between migration flows and the expected income differential as expressed in an "elasticity of migrational response" term.

Since the elasticity of response will itself be directly related to the probability of finding a job and the size of the urban-rural real income differential, the model illustrates the paradox of a completely urban solution to the urban unemployment problem. Policies which operate solely on urban labour demand are not likely to be of much assistance in reducing urban unemployment since, in accordance with our expected income hypothesis, the growth of urban employment *ceteris paribus* also increases the rate of rural-urban migration. If the increase in the growth of the urban labour force caused by migration exceeds the increase in the growth of employment, the level of unemployment in absolute numbers will increase and the unemployment rate itself might also increase. This result will be accentuated if, for any increase in job creation, the urban real wage is permitted to expand at a greater rate than rural real income. A reduction or at least a slow growth in urban wages, therefore, has a dual beneficial effect in that it tends to reduce the rate of rural-urban migration and increase the demand for labour.

A second implication of the above model is that traditional methods of estimating the "shadow" price of rural labour to the urban sector will tend to have a downward bias if the migration response parameter is not taken into account. Typically, this shadow price has been expressed in terms of the marginal product of the rural worker who migrates to the city to secure the additional urban job. However, if for every additional urban job that is created more than one rural worker is induced to migrate, then the opportunity cost will reflect the combined loss of agricultural production of all those in-

duced to migrate, not just the one who is fortunate enough to secure the urban position. It also follows that whenever there are sizeable pools of the urban unemployed, traditional estimates of the shadow price of urban labour will reflect an upward bias.

## III.C.2. Migration and City Growth*

What explains the timing and the extent of the transition from a traditional rural to a modern urban society? Why does city growth speed up in early development and slow down in later stages? What role does migration play in the process, and do migrants make rational location decisions? Do urban labor markets serve to absorb urban immigrants quickly? Are rural emigrants driven by "push" conditions in the countryside or by "pull" conditions in the cities? Is the Third World "overurbanized"?

Despite a century and a half of debate, social scientists are still uncertain about the quantitative sources of the urban transition, how it can be influenced by policy, and if so whether it should be influenced by policy. While successful industrialization clearly fosters urbanization, what accounts for the "explosive" city growth in the Third World since the 1950s? The two principal hypotheses advanced in the literature are that rapid city growth and urbanization can be explained primarily by (1) unusually rapid rates of population growth pressing on limited farm acreage, pushing landless labor into the cities and (2) economic forces pulling migrants into the cities. In the contemporary developing world these latter forces include domestic policies that distort prices to favor cities (e.g., the domestic terms of trade have been twisted to "squeeze" agriculture); cheap energy prior to the first OPEC shock favoring the growth of energy-intensive urban sectors, thus creating urban jobs; the diffusion of technology from the developed world, which favors modern, large-scale urban industries; foreign capital flows into urban infrastructure, housing, power, transportation, and large-scale manufacturing—further augmenting the growth of cities in the Third World; and the liberalization of world trade since the late 1950s, which has stimulated demand for manufacturing exports produced in Third World cities.

Most demographers favor the first hypothesis. Exploding numbers of people must be employed, and a marginal agriculture with quasi-fixed arable land stocks cannot offer sufficient employment for the Malthusian glut created by the demographic transition. Marginal survival by hawking urban services may be the only way a social system can absorb the population glut, and squalid urban living conditions have been an attribute of early stages of industrialization since Engels wrote of Manchester in the 1840s. The demographer, writing in the shadow of Malthus, is likely, therefore, to favor a causal sequence running from a population boom, to labor pushed off the land, to city immigration, and thus to rapid urban growth under squalid living conditions. This view has also had a profound influence on economists' thinking about development. It is central to Lewis's (1954) labor surplus model—a model that also worked well for the classical economists developing their paradigms of growth during the British industrial revolution. It is also central to the Todaro (1969) thesis that rising immigration to the city is associated with high and even rising rates of urban unemployment. On the other hand, most economists now tend to favor the second hypothesis; that is, an emphasis on those economic forces which contribute to urban pull. . . .

This neo-Malthusian pessimism was given theoretical rationalization in 1969 with the appearance of Michael Todaro's model of labor migration and urban unemployment. Not surprisingly, the Todaro model took the profession by storm. After all, it had very attractive ingredients:

> The idea that migrants compare expected gains with the current costs of being unemployed represented rather standard theory. The model's appeal lay rather in the fact that it fitted well with three prevalent stereotypes: high wages in the modern sector; presumptions of mass unemployment; permissive or overly generous policies and/or articulate, militant labor movements. (Kannappan 1985, p. 703)

*From J. G. Williamson, "Migration and Urbanization," in *Handbook of Development Economics*, ed. Hollis Chenery and T. N. Srinivasan (Amsterdam: North Holland, 1988), vol. 1, pp. 426–27, 443–46. Reprinted by permission.

The hypothesis is simple and elegant. Perhaps the most effective illustration can be found in Corden and Findlay (1975), reproduced in Figure 1. There are only two sectors analyzed in the figure, and labor is the only mobile factor there, but it is sufficient to illustrate the point. Under the extreme assumption of wage equalization through migration, and in the absence of wage rigidities, equilibrium is achieved at $E$ (the point of intersection of the two labor demand curves, $AA'$ and $MM'$). Here wages are equalized at $w_A^* = w_M^*$, the urbanization level is $O_M L_M^*/L$ (the share of the total labor force, $L$, employed in urban jobs, $O_M L_M^*$), where $M$ denotes urban manufacturing and $A$ denotes agriculture. Wages are never equalized in the real world, of course, and so the model incorporates the widely held belief that the wage in Third World manufacturing is pegged at artificially high levels, say at $\overline{w}_M$. If for the moment we assume unemployment away, then all of those who fail to secure the favored jobs in manufacturing would accept low-wage jobs in agriculture at $w^{**}$. The model now allows for a wage gap between the two sectors.

Figure 1 makes it clear that the level of city employment would be choked off by the high wage in manufacturing, but would city immigration also fall off? Not necessarily. Indeed, the model was originally motivated by concerns with urban unemployment, as well as by the coexistence of dramatic city growth, unemployment, *and* the expansion of the informal urban service sector where, it was alleged, low-wage underemployment prevailed. Todaro explains this apparent conflict (e.g., immigration in the face of urban unemployment and underemployment at very low wages) by developing an expectations hypothesis which, in its simplest form, states that the favored jobs are allocated by lottery, that the potential risk-neutral migrant calculates the expected value of that lottery ticket, and then compares it with the certain employment in the rural sector. Migration then takes place until the expected urban wage is equated to the rural wage. Given $\overline{w}_M$, and a wage in informal urban services so low that it can be taken as zero, at what rural wage would the migrant be indifferent between city and countryside? If the probability of getting the favored job is simply the ratio of employment in manufacturing, $L_M$, to the total urban labor pool, $L_U$, then the expression

$$w_A = (L_M/L_U)\,\overline{w}_M$$

indicates the agriculture wage at which the potential migrant is indifferent about employment location. This is in fact the $qq'$ curve in Figure 1.[1] The equilibrium agriculture wage is given by $w_A$, and those unemployed or underemployed in the city (e.g., the size of the informal service sector plus those without any work at all) is thus given by $L_{US}$.

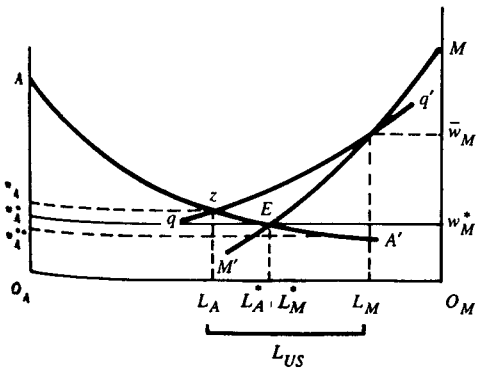
The new equilibrium at $Z$ in Figure 1 seems to offer an attractive explanation for some of the stylized facts of Third World labor markets. It yields a wage gap, $\overline{w}_M - w_A$, and urban low-wage employment or unemployment, $L_{US}$. Moreover, when the dynamic implications of the model are explored, it turns out that an increase in the rate of manufacturing job creation need not cause any diminution in the size of the low-wage informal service sector. Indeed,

> as long as the urban-rural [wage gap] continues to rise sufficiently fast to offset any sustained increase in the rate of job creation, then . . . The lure of relatively high permanent incomes will continue to attract a steady stream of rural migrants into the ever more congested urban slums. (Todaro 1969, p. 147)

Nor has Todaro changed his view since 1969. A decade later he stated that city immigration in the Third World is

> the major contributing factor to the ubiquitous phenomenon of urban surplus labor and as a force that continues to exacerbate already serious urban unemployment problems caused by growing economic and

FIGURE 1. The Todaro model according to Corden and Findlay.




[1] The $qq'$ curve is a rectangular hyperbola with unitary elasticity. The elasticity of the labor demand curve $MM'$ is assumed to be less than unity in figure 1, an assumption motivated by empirical evidence available for the Third World.

structural imbalances between urban and rural areas. (Todaro 1980, p. 362)

Furthermore, the model makes some firm assertions about how urban labor markets work and how immigrants are absorbed into that labor market. First, it asserts that immigrants earn lower incomes than non-immigrants, the latter having first claim to the favored jobs. Second, it asserts that immigrants have a higher incidence of unemployment. Third, it implies that wages are lower in informal service sector employment than in industrial employment. Fourth, it implies that immigrants earn less in the cities when they first arrive, than they earned in the rural areas they left.

### Critique: How Do Urban Labor Markets Really Work?

There are five critical assumptions of the Todaro model which lead to its dramatic results. Each of these seems restrictive, or at the very least deserve far more research.

First, as Willis (1980, p. 396) points out, job allocation rules are not likely to obey the simple lottery mechanism embedded in the Todaro model. The literature on job search has grown considerably since 1969, and it all emphasizes the role of investment in the search. In contrast, there is no such explicit investment in the Todaro model, except for the actual decision to migrate. In fact, recent evidence from the Third World suggests that unskilled immigrants do not engage in long job searches, and that overt urban unemployment is an attribute of the skilled rather than the unskilled (Yap 1976, 1977; Papola 1981). Indeed, this fact has encouraged the development of two-stream migration models and explicit attention to labor heterogeneity.

Second, there is no attention to informal sector labor market behavior in the Todaro model. In particular, we need to know far more about the sources of labor demand. After all, wages do clear that labor market, they are responsive to demand and supply, and they certainly do not settle to zero.

Third, there has been little evidence marshalled in support of the modern sector rigid-wage assumption (Montgomery 1985). This statement holds true for trade union pressure and minimum wage legislation. After all, wage differentials between urban formal and informal sectors could be explained just as well by appealing to firm-specific training costs (Mazumdar 1973, 1976; Stiglitz 1974).

Fourth, there is the issue of discount rates and rational migrants. What matters to Todaro's migrants is the present value of expected urban earnings compared with the present value of expected rural earnings. Given modern sector wages double those of rural wages, given some unemployment duration before a migrant secures the modern sector job, and given some discount rate, how long a time horizon would a potential migrant have to have before present values were equated? Cole and Sanders (1985, p. 485) have made that calculation where discount rates are allowed to vary between 5 and 15 percent. They conclude: "If one must assume very long time horizons, in some cases greater than 50 years, an alternative explanation of migration may be in order" (Cole and Sanders 1985, p. 485).

Fifth, and perhaps most important, the model abstracts from many additional influences on the potential migrant's decision. This is the thrust of much of Stark's recent work on risk aversion, relative deprivation, and cooperative family games (Stark, 1984).

This debate is not merely academic nit-picking, since conflicting policy morals may emerge from the Todaro model and an alternative model which relaxes these critical assumptions. One of the first morals likely to be reversed is that "underemployment" in the informal service sector is socially unproductive. A second moral likely to be reversed is that rapid job creation in the modern sector fosters increasing urban unemployment. However, an important third moral is likely to remain unchanged; namely, development strategies should continue their recent emphasis on rural growth (Fields 1980, p. 390).

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## *Comment: Econometric Studies of Migration*

The key question of what determines rural-urban migration can be explored further in studies that set forth probabilistic job-search models and in empirical investigations of migration functions. Field studies and econometric analyses indicate the importance of the economic motive in the decision to migrate. Econometric estimates of migration functions have also demonstrated that the probability of urban employment, independent of the differences in actual rural and urban wages, contributes significantly to the explanation of variance among time periods and subgroups of the rural population in rates of urban migration.

In an excellent survey of numerous studies, however, Yap indicates several problems with the econometric functions that limit their usefulness for prediction.[1]

> The basic form of the migration function is as follows:
>
> $$\overline{M}_{ij} = f(Y_i, Y_j; U_i, U_g; Z_i, Z_j; d_{ij}; C_{ij})$$
>
> The specification is usually log linear. Typical independent variables used to explain migration from place $i$ to place $j$ ($\overline{M}_{ij}$) include wage or income levels ($Y$), unemployment rates ($U$), the degree of urbanization ($Z$) for the population in areas $i$ and $j$, the distance between $i$ and $j$ ($d_{ij}$), and the friends and relatives of residents of $i$ in the destination $j$ ($C_{ij}$). Population in areas $i$ and $j$ is sometimes included.

Limitations of these studies are: (1) the level of demographic and geographic aggregation masks different patterns of migration; (2) the migration variable used in some of the studies presents conceptual and econometric difficulties; and (3) the independent variables are often poorly measured, especially the income estimates.

According to Stark and Bloom,

> Recent empirical research on the economics of labor migration has benefited a great deal more from the development of new econometric techniques than from new theoretical ideas. The techniques that have substantially improved our ability to use micro data sets in the estimation of relatively standard models of labor migration include techniques for the analysis of qualitative dependent variables, techniques that

[1] L. Y. L. Yap, "The Attraction of Cities: A Review of the Migration Literature," *Journal of Development Economics* 4 (1977): 239–64.

correct for sample selection bias, and techniques for the analysis of longitudinal and pseudo-longitudinal data. At the micro level, most empirical studies have attempted to test simple microeconomic models of migration according to which individuals (or families) make locational decisions primarily by comparing their income opportunities at alternative locations. The key feature of recent studies of this type is their focus on the estimation of structural, as opposed to reduced-form, models of the migration decision.[2]

In his *The Migration of Labor* (1991), Stark extends portfolio investment theory to migration and to the remittance of earnings. Under this theory, migration decisions are ordered by family needs for stable income levels, provided by a diversified portfolio of laborers, both male and female, and the need to jointly insure the family's well-being. In brief, group decision making and objectives, rather than the wishes of individual migrants, determine migration patterns and remittance flows. Viewed in light of portfolio investment theory, families allocate their labor assets over geographically dispersed and structurally different markets to reduce risk. Research indicates that after migration, family members pool and share their incomes. This pooling, or co-insurance, covers risks of losing income in individual markets and allows the family to smooth its consumption.

As Yap concludes, additional empirical research on migration would be useful to define the migration rate appropriately, adjust for simultaneous equation biases, and include more policy variables to provide more predictive value.

[2]Oded Stark and David E. Bloom, "The New Economics of Labor Migration," *American Economic Review* (May 1985): 176–77.

**EXHIBIT III.1.** Urban Population, Major Areas and Regions, 1950–2000 (thousands)

| | 1950 | 1960 | 1970 | 1975 | 1980 | 1990 | 2000 |
|---|---|---|---|---|---|---|---|
| *World Total* | 724,147 | 1,012,084 | 1,354,357 | 1,560,860 | 1,806,809 | 2,422,293 | 3,208,028 |
| More developed regions | 448,929 | 572,730 | 702,876 | 767,302 | 834,401 | 969,226 | 1,092,470 |
| Less developed regions | 275,218 | 439,354 | 651,481 | 793,558 | 972,408 | 1,453,067 | 2,115,558 |

*Source:* United Nations, *Patterns of Urban and Rural Population Growth*, ST/ESA/Ser. A/68.

## III.C.3. The Informal Sector*

The popular view of informal-sector activities is that they are primarily those of petty traders, street hawkers, shoeshine boys and other groups "underemployed" on the streets of the big towns. The evidence suggests that the bulk of employment in the informal sector, far from being only marginally productive, is economically efficient and profit-making, though small in scale and limited by simple technologies, little capital and lack of links with the other ("formal") sector. Within the informal sector are employed a variety of carpenters, masons, tailors and other tradesmen, as well as cooks and taxi-drivers, offering virtually the full range of basic skills needed to provide goods and services for a large though often poor section of the population.

Our analysis lays great stress on the pervasive importance of the link between formal and informal activities. We should therefore emphasise that informal activities are not confined to employment on the periphery of the main towns, to particular occupations or even to economic activities. Rather, informal activities are the way of doing things, characterised by—

1. ease of entry;
2. reliance on indigenous resources;
3. family ownership of enterprises;
4. small scale of operation;

*From ILO Mission, *Employment, Incomes, and Equality: A Strategy for Increasing Productive Employment in Kenya*, Geneva, 1972, pp. 5–8, 503–8. Copyright 1972, International Labour Organisation, Geneva. Reprinted by permission.

5. labour-intensive and adapted technology;
6. skills acquired outside the formal school system; and
7. unregulated and competitive markets.

Informal-sector activities are largely ignored, rarely supported, often regulated and sometimes actively discouraged by the Government.

The characteristics of formal-sector activities are the obverse of these, namely—

1. difficult entry;
2. frequent reliance on overseas resources;
3. corporate ownership;
4. large scale of operation;
5. capital-intensive and often imported technology;
6. formally acquired skills, often expatriate; and
7. protected markets (through tariffs, quotas and trade licenses).

Our strategy of a redistribution from growth aims at establishing links that are at present lacking between the formal and the informal sectors. A transfer of incomes from the top income groups to the working poor would result in new types of labour-intensive investments in both urban and rural areas. This should not only generate demand for the products of the informal sector but also encourage innovations in labour-intensive techniques in this sector. The various policies which we recommend in other parts of the report are intended to reduce risk and uncertainty on the part of those employed in the informal sector and to ensure a dynamic growth of this large segment of the Kenyan economy.

There are marked contrasts between the relative security and income levels of those with wage-earning jobs in the bigger firms and those self-employed in the informal sector. These sharp inequalities inevitably create strong ambitions to migrate to the towns, to strive for higher education, to search for a job. As long as extreme imbalances persist, so will unemployment, since large differentials will always attract a margin of job seekers to hover in the towns, near the chances of the good jobs, in the hopes of snapping one up. This explains why the analysis of inequality is fundamental to the explanation of employment problems in Kenya.

But unemployment is not only the result of imbalance in differentials and opportunities. Even with perfect equality, unemployment could arise. Fast rates of population growth, of urbanisation and school expansion inevitably make it more difficult to absorb the growing labour force and reduce the time that might otherwise be available for structural adjustments. Here a second set of imbalances arise—dynamic imbalances relating to the structure of economic growth in the economy and to the constraints upon it. Rapid growth is needed, but rapid growth can itself generate imbalances which will frustrate its continuation—most notably a shortage of foreign exchange, of domestic savings, of skills and entrepreneurship, of demand or of the political support needed to keep the system workable. For this reason our report is not merely concerned with alleviating unemployment, poverty and gross inequality, but with economic growth on a pattern which can be sustained in the future, and which generates wider and more productive employment opportunities in the process. . . .

### The Relation Between the Formal and Informal Sectors

The process of economic transformation and growth in Kenya has been marked by growing inequalities in the distribution of wealth and income among Africans. The usual explanation is the traditional–modern division of the economy, in which the westernised modern sector is the source of dynamism and change and the traditional sector slowly withers away. This view does not correspond to the reality of Kenya; we reject it for that reason, and because it ignores the dynamism and progressive elements indigenous to the Kenyan economy. We have considerable evidence to refute a view that attributes the sources of economic and social change almost exclusively to outside forces.

Furthermore, the traditional–modern analysis focuses only on the positive effects of the westernisation of the Kenyan economy and ignores the negative effects. In particular, it ignores inter-sectoral dynamics, which are the key to the employment problem. The accumulation of wealth in a small part of the modern sector is the consequence of the concentration of political power in that sector, and has given rise to the development of an impoverished and economically deprived modern sub-sector. The slums of Nairobi, Mombasa and to a lesser extent other urban areas are completely modern and due to the differences of wealth and income between different sectors of the economy. These differences draw migrants toward the concentrations, and bring about the modernisation of almost the entire economy, but not the spread of wealth.

Because of the slow growth of high-wage employment, migration to urban areas by income seekers has led to the growth of a low-income periphery. This low-income sector is peripheral both literally and figuratively. In Nairobi it sprang up, and continues to grow, just outside the borders of the wealthy urban zone, to supply goods and services to the fortunate few inside that zone and to its own population. Figuratively, it is peripheral in that it has only fortuitous and restricted access to the sources of wealth.

### *Characteristics and Dynamics of the Informal Sector*

We describe these two urban sectors as being the "formal" and the "informal" sector. This designation is not intended to contribute to an academic proliferation of labels; we merely seek an analytical terminology to describe a duality that avoids the bias against the low-income sector inherent in the traditional-modern dichotomy. Both sectors are modern; both are the consequence of the urbanisation that has taken place in Kenya over the last 50 years. We might have used the terms "large-scale" and "small-scale," but those terms are purely descriptive and tell us nothing about why one sector is large-scale and the other is small-scale. An explanation of this is central to explaining and solving the employment problem in Kenya. One important characteristic of the formal sector is its relationship to the Government. Economic activities formally and officially recognised and fostered by the Government enjoy considerable advantages. First, they obtain the direct benefits of access to credit, foreign exchange concessions, work permits for foreign technicians, and a formidable list of benefits that reduce the cost of capital in relation to that of labour. Indirectly, establishments in the formal sector benefit immeasurably from the restriction of competition through tariffs, quotas, trade licensing and product and construction standards drawn from the rich countries or based on their criteria. Partly because of its privileged access to resources, the formal sector is characterised by large enterprise, sophisticated technology, high wage rates, high average profits and foreign ownership.

The informal sector, on the other hand, is often ignored and in some respects helped and in some harassed by the authorities. Enterprises and individuals within it operate largely outside the system of government benefits and regulation, and thus have no access to the formal credit institutions and the main sources of transfer of foreign technology. Many of the economic agents in this sector operate illegally, though often pursuing similar economic activities to those in the formal sector—marketing foodstuffs and other consumer goods, carrying out the repair and maintenance of machinery and consumer durables and running transport, for example. Illegality here is generally due not to the nature of the economic activity but to an official limitation of access to legitimate activity. Sometimes the limitations are flouted with virtual abandon, as in the case of unlicensed *matatu* taxis; sometimes the regulations are quite effective. The consequence is always twofold: the risk and uncertainty of earning a livelihood in this low-income sector are magnified, and the regulations ensure a high quality of services and commodities for the wealthy few at the expense of the impoverished many.

The formal-informal analysis applies equally well to the agricultural sector. The parallels are obvious and striking. The division between favoured operators with licences and those without in urban areas is reproduced in agriculture between those who grow tea and coffee with official sanction and those who do so illegally. Similarly, with other agricultural products such as beef, there are those whose wealth enables them to conform to and benefit from standards officially laid down, while others can make a livelihood only by contravening the regulations. In the agricultural sector extension services take the place of the industrial estates and of loans from the Industrial and Commercial Development Corporation in the urban areas: farmers whose wealth and income allow them to conform to bureaucratic criteria benefit. Perhaps the most striking rural-urban parallel is with illegal rural squatters, who move unofficially on to land scheduled for resettlement and face a continual danger of eviction. Their similarity to urban squatters is obvious—both are irresistibly drawn to real or perceived sources of wealth, despite legal restrictions of access.

These characteristics of the informal sector, both agricultural and non-agricultural, result in low incomes for those who work in it. A natural consequence of these low incomes is that monetary exchanges within the informal sector are different in quality from those in the formal sector. A most important consequence of a low in-

come is the primacy of risk and uncertainty. The loss a small farmer or a small entrepreneur can bear is disproportionately smaller than that which can be borne by a wealthy operator, particularly when the former has no access to institutionalised sources of credit. As a consequence, the entrepreneur in the informal sector must act continually to protect himself against risk. Accordingly he establishes semi-permanent relations with suppliers and buyers, frequently at the expense of his profits. For the same reason he may be hesitant to innovate, particularly in agriculture, for he cannot take the chance of failure. These characteristic behavioural responses are not inherent in the informal sector; they are adaptive responses to low income.

Despite the vitality and dynamism we see in the informal sector, we do not delude ourselves that it will develop successfully under present conditions. Although it has the potential for dynamic, evolutionary growth, under the existing nexus of restrictions and disincentives, the seeds of involutionary growth have been sown. Unlike the determinants of growth of the formal sector, the determinants of growth of the informal sector are largely external to it. The relevant question is not whether the informal sector is inherently evolutionary or involutionary, but what policies should be followed to cause evolutionary growth. Irrespective of policy changes, the informal sector will grow in the next 15 years. If policy continues as at present, the growth will be involutionary and the gap between the formal and informal sectors will widen. The employment problem will then be worse.

### *Comment: Studies of the Informal Sector*

The concept of the informal urban sector was introduced by Keith Hart, with the distinction between wage and self-employment as the essential difference between the formal and the informal sectors; see Keith Hart, "Informal Income Opportunities and Urban Unemployment in Ghana," *Journal of Modern African Studies* (March 1973). As noted in the preceding selection, the ILO identifies the informal sector by a variety of other characteristics. For analytic purposes, it may be most incisive to define the informal sector as simply that sector in which the return to labor, whether or not in the form of wages, is determined by forces of demand and supply.

For studies of the informal sector, see Dipak Mazumdar, "The Urban Informal Sector," *World Development* (August 1976); Stephen Guisinger and Mohammed Irfan, "Pakistan's Informal Sector," *Journal of Development Studies* (July 1980); Peter Lloyd, *The "Young Towns" of Lima: Aspects of Urbanization in Peru* (1980); "Third World Migration and Urbanization: A Symposium" *Economic Development and Cultural Change* (April 1982); Oded Stark, "On Modelling the Informal Sector," *World Development* (May 1982); and ILO, *The Urban Informal Sector in Asia: An Annotated Bibliograph* (1992).

A later study of the informal sector in Nairobi (Kenya) found that the informal sector can be dichotomized into a dynamic entrepreneurial subsector, where a firm commitment has been made by the operators to their enterprises, and a relatively stagnant group—"the community of the poor"—engaged in menial employment with subsistence returns to their efforts. William J. House, "Nairobi's Informal Sector: Dynamic Entrepreneurs or Surplus Labor?" *Economic Development and Cultural Change* (January 1984).

In conformity with the potential expressed in the early ILO Mission Report (III.C.3), House concludes (p. 298):

> While critics of the ILO report on Kenya painted a very bleak picture of the informal sector, we have shown that they were far too pessimistic. A sizable part of the sector, the intermediate, has succeeded in expanding and accumulating capital assets despite an often aggressively negative attitude toward their activities by public authorities. The potential for increased incomes and employment opportunities referred to by the ILO is being realized in this subsector. Investment induces significant increases in incomes and, because of the labor intensity of the technology employed, improved job opportunities. Furthermore, linkages to the formal sector by way of subcontracts in general appear as benign rather than exploitive.
>
> On the other hand, significant numbers live in the community of the poor. Forty-two percent of proprietors and perhaps as many as fifty percent of employees receive less than the legal minimum wage. Within this group a considerable proportion receive incomes which fall below the minimum required to satisfy the barest of basic household needs.

## III.C.4. Reinterpretation of the Informal Sector*

The informal/microenterprise sector turns out to be quite a heterogeneous set of activities, many of them in trade and services, so that it is unwise to make blanket judgments, completely positive or negative, regarding its potential contribution to development: rather, one should assess its various roles and consider in what ways its contribution can be enhanced.

The quantitative importance of the sector within the urban and rural economy shows that it is capable of substituting for large-scale units, both large-scale factories and "modern" small-scale enterprises. This is despite the pursuit of microeconomic and sectoral policies which are generally biased against microenterprises. Even if special small-industry development programs exist, the basic industrial development strategy pursued in Kenya and other African countries has been one of import-substituting industrialization, usually centering on large-scale, capital-intensive industry, often foreign-owned and using imported technologies. Other macroeconomic policies are well-known: duty-free import of capital goods (but taxed imports of microenterprise capital goods, treated as consumer goods) assisting large-scale units but competing with potential small-scale capital goods production; special depreciation provisions, subsidized real interest rates and special access to finance; and overvalued exchange rates, apart from direct support measures. A particular feature of SSI promotional programs and assistance measures, moreover, is usually a complete absence of technology improvement and product development components. With more even-handed macroeconomic and sectoral policies—including positive measures to promote linkages between large- and small-scale industry, and to upgrade microenterprise products and technologies—it should be possible to shift the boundary of production between large-scale and small-scale production.

A principal reason why informal sector producers are able to substitute for larger enterprise is that, in a market dominated quantitatively by low-income consumers, they offer cheap and "appropriate" goods and demand only a very low supply price for their services.

One form of "appropriateness" is to make goods last longer, hence the share of repair services of all kinds within the sector. Cheap but risky and uncomfortable transportation is another example.

This aspect has led some economists to suggest that informal sector manufacturing has no long-run development role, inevitably to be replaced by factory production as incomes rise. This neglects the time scale involved: only when development has proceeded far enough to substantially raise the supply price of labor will informal sector production modes become uneconomic. Even Asian countries with significantly higher per capita incomes than most African countries continue to have substantial informal sectors.

The sector expands not through the growth of individual enterprises but through an increase in the number of establishments, each employing only one or two persons. Given the numbers to be absorbed, and the inability of the formal sector to absorb them, labor is sufficiently cheap to make 1–2 person enterprises competitive. Informal sector enterprises represent a means of providing employment rather than potential developing firms (though not exclusively).

A substantial portion of rural Kenyan households are "divided": nonfarm self-employment and farm employment both contribute to rural household viability, even though family members may need to work in urban areas to secure the former. Household-based nonfarm activities also provide supplementary income to maintain viability. The substantial proportion of such "divided households" in rural Kenya implies a relatively favorable return to labor in the informal sector, but may in turn cause labor shortages and lower productivity in agriculture. It would be desirable to raise technology to improve productivity simultaneously in both sectors.

Disdain for the informal sector is produced by frequent reference to marginal activities such as shoe shining, car washing, or selling discarded whisky bottles. Evidence from an actual study of shoe shining in Nairobi (Elkan et al., 1983) puts a different perspective on this. Although House clearly places shoe shiners within his "community of the poor," Elkan found average

*From Ian Livingstone, "A Reassessment of Kenya's Rural and Urban Informal Sector," *World Development* 19, no. 6 (1991): 667–68. Reprinted by permission from Elsevier Science Ltd. Oxford, England.

net earnings in the trade to be around KShs600 a month, noting that this was "a good deal higher than had been expected." The significant finding, however, was that the chief customers were Kenyans, not tourists, and not even well-to-do Kenyans, but an intermediate category of "shop assistants, office clerks, and civil servants of the lower grades, none of whom have servants but all of whom like to look smart." This suggests that, rather than being a marginal occupation and a form of disguised unemployment, shoe shining has a natural place in the market economy of Kenya at its present stage of development. Many other "informal sector activities," of course, will have a much more important place in that economy, and the whole set of activities will basically reflect the level of income in the population. Thus in Asian developing economies, the urban and rural informal sectors may be much richer in content. Conversely, it is evident that in other African countries, where rural incomes and rural purchasing power are much lower than Kenya, the informal sector is thin. This wide variation was observed also within one country, in different districts of Kenya.

Part of the dichotomy, in fact, between the formal and informal sectors arises out of a corresponding income dichotomy between the mass of consumers making use of informal sector goods and services (and, of course, some mass-produced factory goods) and a wealthy class largely patronizing the formal sector. In some cases there may be a clear element of price discrimination involved, reflecting the effect of income levels. Thus a short taxi ride in the "formal" sector across Nairobi for the tourist or middle-class Kenyan will cost the same as an 80-mile ride from Nairobi to Embu in an "informal sector" taxi, even when the city taxi is considerably more ramshackle. Much of the service sector in Kenya and other developing countries (prostitution is an example) is characterized by price discrimination and segmented markets. However, informal manufacturing may be similarly if less obviously based on price discrimination, by supplying rough-and-ready goods such as furniture, household utensils, and garments for the mass market, while leaving the often much *smaller* quality market to the formal sector. Low-income consumers do not simply consume less: they consume goods and services which serve similar purposes but at a much lower price—informal sector taxis, local beer instead of canned beer, charcoal instead of electricity, simple houses instead of expensive houses, and less hygienic eating houses and food kiosks instead of modern hotels. There are, indeed, usually two price levels depending on the income category of the consumer.

The sharper the division between income categories, the clearer will be the gap between formal and informal producing sectors: also because a larger poor sector provides the necessary source of ultra-cheap labor. It is not a coincidence that much of the early literature on the informal sector focused on Kenya, and less so on West African countries such as Nigeria, and that the issue was taken up subsequently by the Latin American countries especially. In many Asian countries there is more of a spectrum than a dichotomy, but there remains a complex set of low-priced activities which reflect the general level of incomes, as these evolve over time, in each country. It is especially this level of income difference which produces differences in the content of the typical African economy and many of the Asian economies at the present time.

*Reference*

Elkan, W., T. C. I. Ryan, and J. T. Mukui (1983). "The economics of shoe shining in Nairobi." *African Affairs* 18, no. 323.

*Comment: Urban–Rural Wage Gap*

Despite extensive migration, the wage in the modern formal sector remains higher than a market clearing level. In the Todaro model, sticky industrial wages, notwithstanding urban unemployment, but flexible farm wages, jointly account for the wage gap. Other explanations are also possible.

First, considering real wages instead of only nominal wages, we may note that urban real wages, after allowing for the higher cost of living in cities and the in-kind payments to farm workers, may not be a great deal higher than rural wages.

Another explanation is based on institutional differences between the two sectors—the prevalence of trade unions, government employment, and minimum wage legislation in the formal urban sector.

These urban labor market distortions might thereby account for both rising unemployment and increased wage gaps.

A "labor turnover model" has also been used as a partial explanation of the wage gap: Joseph E. Stiglitz, "Alternative Theories of Wage Determination and Unemployment in LDCs: The Labor Turnover Model," *Quarterly Journal of Economics* (May 1974). Stiglitz observes that turnover costs (hiring and training) are greater in the urban sector than in the rural sector. He also postulates that the turnover rate is a decreasing function of the wage rate in the urban sector relative to the wage rate in the rural sector; therefore, it pays each competitive firm in the urban sector to offer more than the rural wage.

Another partial explanation by Stiglitz relies on the "efficiency wage model": Joseph E. Stiglitz, "Alternative Theories of Wage Determination and Unemployment in LDCs: The Efficiency Wage Model," in *The Theory and Experience of Economic Development*, ed. M. Gersovitz et al. According to this model, it is rational for a profit-maximizing firm to pay higher wages because higher wages, up to a point, lead to lower labor costs. Stiglitz submits that this happens because higher wages lead to (1) lower quit rates (the labor turnover model), (2) greater productivity on the job (the efficiency wage–productivity model), and (3) obtaining a higher quality labor force (efficiency wage–quality model).

To correct the effects of the urban–rural wage gap, economists often advocate a wage subsidy to encourage employers to use more labor-intensive techniques and hire more laborers in the modern sector. In project appraisal (X.C.3), as we shall see in Chapter X, labor should also be given a shadow wage that is lower than the market wage in the urban sector. According to the Stiglitz models, however, these policy recommendations may be wrong if government policy induces more migration to the urban sector with consequent unemployment, or if wage subsidies shift to workers in the form of higher real wages.

For an illuminating testing of these hypotheses, see Timothy J. Hatton and Jeffrey G. Williamson, "What Explains Wage Gaps Between Farm and City? Exploring the Todaro Model with American Evidence, 1890–1941," *Economic Development and Cultural Change* (January 1992). Also, Subbiah Kannappan, *Employment Problems and the Urban Labor Market in Developing Nations* (1983), and Janet L. Yellen, "Efficiency Wage Models of Unemployment," *American Economic Review, Papers and Proceedings* (May 1984).

# III.D. THE LEWIS MODEL IN RETROSPECT—NOTE

The Lewis dual-sector model was first presented in 1954, but in light of the more than four decades of development experience it is now instructive to revisit the model and reassess its policy implications. In 1954, the model was forward looking, designed to indicate "what might be"—a theory of how an unlimited supply of labor might be absorbed from a rise in the savings ratio and capital accumulation in the modern sector.

True, over the intervening decades, some of the model's implications have turned out to have been realized empirically. Taiwan and South Korea are successful examples. Many other LDCs, however, are still left with severe problems of labor utilization. And, although the Lewis model made an increase in the savings ratio a central requirement for accelerated development, some countries have not been successful in overcoming surplus labor despite high savings and investment ratios. India, for example, has realized high savings ratios of 20 percent or greater, but its growth has been slow and the optimistic implications of the Lewis model have not been realized in practice. Although physical capital accumulation may be considered a necessary condition of development, it has not proved sufficient.

On the basis of development experience since 1954, we can now recognize deviations from the Lewis model and focus on future policy—what "ought to be" instead of "what might be" (as in 1954) and "what has been" (as in the past development record).

### Deviations from the Lewis Model

Although Lewis's two-sector model did not so intend it, the capitalist sector in his model has, in practice, become identified with industry or the urban sector, while the noncapitalist sector has become identified with agriculture or the rural sector. It may be more preceptive, however, to recognize that in actuality a "double dualism" has arisen within poor countries. Not only is there rural–urban dualism, but within each of the two sectors are two subsectors, which might be termed the "organized" and the "informal" subsectors. The organized subsector in the urban sector is composed of wage earners in formal employment, is characterized by modern management and modern techniques of production, and is protected by governmental policies.

As noted in selection III.C.3, the informal subsector, in contrast, is composed of the self-employed and small-scale traditional crafts and services, all unprotected by governmental policies. Employment opportunities in the informal subsector are created by supply; necessity drives people to work in every conceivable way. Workers in the informal subsector may actually be working long hours at extremely difficult physical labor, but their productivity is very low, and their meager income is variable and frequently shared with others. With the extensive rural–urban migration, and the incapacity of the urban organized subsector to absorb the migration, the informal subsector of the city has acted as a sponge for the surplus labor. In most LDCs, the number in the urban informal subsector has risen not only absolutely, but also as a proportion of the total labor force. In urban centers, such as Calcutta or Bombay, it is estimated that one-half or more of the work force is in the informal subsector.

In the rural sector, a similar subdivision is evident. The organized sector comprises plantations, estates, and mines with modern management, advanced techniques of production, and wage employment. Widespread, however, is the informal subsector, in which production is still of the traditional subsistence variety, with production for household consumption.

As we saw in selection III.B.1, the essence of the Lewis model is that wages in the modern sector are based on the average product of labor in the traditional rural sector, but are somewhat higher—for unskilled labor, normally about 50 percent above the income of subsistence farmers—in order to attract labor into the modern sector and compensate for the higher cost of urban living and any nonpecuniary disadvantages. Lewis believed that this higher wage rate "brings the modern sector as much labor as it wants without at the same time attracting much more than it can handle."[1] Furthermore, the

[1] W. Arthur Lewis, *Development Planning* (1966), pp. 77–78, 92, and "Unemployment in Developing Areas," in *A Reappraisal of Economic Development*, ed. A. H. Whiteford (1967), p. 5.

model postulates that wage rates should not rise with increasing productivity, but that capital formation and technical progress in the capitalist sector should raise the share of profits in the national income. To the extent that the profit ratio rises, there should then be capital-widening investment in the industrial sector, so that the demand for labor continues to rise and more industrial workers are employed at a constant real wage. Finally, after the surplus labor is absorbed, wages begin to rise.

In actuality, however, the real income gap between the modern and the rural sectors has been much greater than allowed for in the Lewis model. The wage rate in the modern sector has been higher than that needed to cover the cost of transfer and the higher urban costs of living. And the differential above rural income has widened. The wage level in the industrial sector has risen in spite of open unemployment and before the surplus labor of the rural sector has been absorbed. It has also continued to rise in many of the LDCs, although the average product in agriculture may have been even stagnant in some economies. Instead of Lewis's suggested 50 percent differential, the average real wage for workers outside of agriculture has commonly been two to four times greater than the average family income in the traditional sector.

Most important, the inflow of labor to the modern sector has actually been "more than it can handle"; contrary to what is to be expected from the Lewis model, an exceedingly high rate of unemployment and underemployment has materialized in the modern sector. Those formerly in disguised unemployment in the rural sector have, in effect, transferred into visible unemployment and underemployment in the modern sector.

The reasons for this can be found in some of the actual deviations from the conditions of the Lewis model and in some structural distortions that have been perpetuated by inappropriate policy measures.

The rate of urbanization has indeed been high. The amenities and public services of the urban area are attractive in themselves to labor from the rural sector. But the strongest inducement has been the widening income difference between urban wages and rural income at the same time as rural employment opportunities have not expanded. Fundamentally, it can be submitted that the employment problem in the urban area has been the result of a premature increase in the industrial wage level combined with a premature reduction in agricultural employment. To a lesser extent, but still significantly in some countries, labor has been released from the very labor-intensive indigenous handicraft industries that cannot compete with the growth in new manufacturing activities. "Rationalization" of labor practices in the tertiary sector has also tended to increase the supply of labor to the urban industrial sector.

As already noted, the urban wage level has not been controlled by real earnings in agriculture. Urban wages have commonly risen to two to four times higher than agriculture earnings. Urban wages have risen independently through the wages policies of the government and trade unions. Trade union pressures have increased in many countries, and labor-supported governments have shown some sympathy to such pressures. Moreover, the monopolistic structure of many product markets has facilitated the passing on of higher wages in the form of higher prices. In several countries, union pressure in crucial sectors of the economy—for instance, in the oil, copper, and bauxite industries—has been instrumental in setting a pattern of wage increases in other sectors.

More significantly, governmental policies have been directly instrumental in raising urban wages. The public sector is frequently the largest sector of wage employment and the only sector that is highly organized. Wages in the public sector have risen rapidly and have commonly acted as the base for a wider pattern of wage increases.

In newly independent countries, the salary scales became basically those that were paid to expatriates during the earlier colonial period; but this scale does not now conform to the utilization of the domestic supply of labor, and it puts undue pressure on the wage structure. Nor can the heightened expectations from the extension of education be fulfilled. Furthermore, minimum-wage regulation has been influential in raising urban wages and has had a great impact on the total wage structure in a developing country. The minimum wage in a dominant industry is frequently negotiated with the government on the basis of "an ability to pay" criterion, but this wage tends to spread through other industries. The increase in the minimum wage will have considerable effect in raising the whole wage scale, since the wages being received by most of the unskilled workers are at or near the current minimum wage. The generalization of a minimum wage may then become highly un-

realistic because it is oblivious to conditions of supply and demand in the labor market, living standards in the traditional sector, and the effects on the wage structure as a whole. Workers who were only marginally useful—but nonetheless employed at the lower wage—become redundant when the minimum wage rises.

Minimum-wage policies for unskilled labor have the effect of making the skilled–unskilled wage differential too narrow, as has happened in many African and Asian countries. Market forces of supply and demand are left to determine wages for skilled labor, but demand rises only slowly so that the market-determined wage for skilled labor also tends to rise slowly. If governments then insist that unskilled wages should increase independently of demand and supply conditions in the unskilled labor market, there is a likelihood that unskilled wages will increase faster than skilled wages, and that relatively low-wage labor will become overvalued.

In default of adequate profit taxation or another tax policy, governments have found it convenient in effect to "tax" companies—especially foreign companies—through wage increases. The government's policy of encouraging higher wages may initially be directed only at foreign companies in order to prevent "excess" profit repatriation and to raise the share of income for domestic factors. But the demonstration effect of higher wages in the foreign enterprises also causes a spread of higher wages to other enterprises.

At the same time as government policies have supported urban-wage increases, no particular attention has been given to the level of agricultural wages. The result has been a widening gap between the urban and the agricultural wage levels. Such a large differential has served to attract the disguised unemployed from the rural sector to the urban sector, but it has simultaneously kept industrial labor overpriced. Moreover, the differential between urban and rural wages has proceeded to widen in face of the substantial and growing urban unemployment and underemployment. With the rising expected wage, it has become increasingly difficult to absorb the excess supply of labor.

Although the Lewis model envisages sufficient capital-widening investment in the industrial sector to absorb the labor inflow, the actual result has been a substitution of capital for labor in the modern organized sector. Contrary to the model, wage rates in many LDCs have actually risen more rapidly than productivity. Real wages have risen at rates comparable to those in the advanced industrial countries. But whereas in the industrial countries, real wages have increased roughly in line with average national productivities, the rise of wages in the developing countries often implies an increase considerably faster than that in real national product per capita.

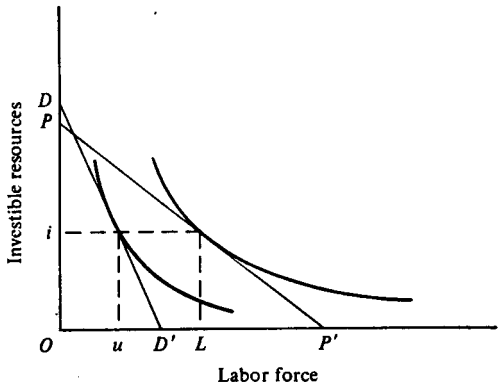
The consequence of this has been the use of more capital-intensive production methods either through the introduction of labor-saving machinery in response to rising wages or through improvement in personnel and production-management practices that have trimmed the labor requirements per unit of output.

Capital-intensive methods of production have also been subsidized by other price distortions—especially through too low a rate of interest and too low a price for foreign exchange. When interest rates in the urban sector do not reflect the true scarcity of capital, a bias is imparted to capital-intensive production methods. This is often intensified by inflation that lowers the real rate of interest below the nominal rate, possibly even to a negative real rate. So, too, is there a bias toward more advanced production techniques when the LDC's currency is overvalued in terms of foreign currency, and the true cost of importing machinery is thus undervalued. Governments have also lowered the relative price of producers' equipment by such measures as allowing duty-free importation of equipment, granting a preferential exchange rate, and making available foreign exchange for servicing loans from overseas machinery suppliers. When domestic enterprises are protected by tariffs and import quotas, the pressure to economize on capital is also less than it would be in more competitive markets.

It is most significant that the strategy of industrialization through import substitution has dominated the expansion of the urban industrial sector. In Chapter IX, we examine in some detail the policies used to promote the home replacement of imported final goods. At this point, we need only recognize that the attempt to industrialize by means of import substitution has generally been accompanied by inflation and an overvalued exchange rate. These policies have resulted in a distorted price structure in many LDCs: too low a rate of interest in the urban sector, too low a rate for foreign exchange, and too high a level of urban wages.

According to neoclassical analysis, the un-

FIGURE 1.




employment in less developed countries can be attributed to distorted factor prices. There exists some "natural" or "undistorted" set of factor prices that would reflect the opportunity cost of the various resources and would ensure full employment of all resources. Unemployment or underemployment, then, is due to various market imperfections that distort the factor prices and prevent full employment.

Figure 1 illustrates this. There is assumed to be substitutability in choice of techniques of varying labor and investment intensity. The slope of the price line $PP'$ is the ratio of interest rate to wage rate. Full employment would occur with the price line of $PP'$, given the limited investment resources $Oi$ and labor supply $OL$. But distortions in capital and labor markets result in an actual price line of $DD'$, representing too low a rate of interest and too high a wage rate. The factor market distortions then result in unemployment $uL$, given the limited investment resources $Oi$. The policy inference is "let the endowment speak," change factor prices, or subsidize and tax the factor markets to bring them into line with "undistorted" full-employment prices.[2]

The capital-intensive bias is also supported by a number of other measures. Employers tend to seek means of reducing their labor requirements when the government uses wage policies as a substitute for social legislation by requiring family allowances, pensions, licensing and health measures, or other fringe benefits bordering on social insurance. Officially required fringe benefits and wage supplements may commonly amount to as much as 30 to 40 percent of the basic wage. When the employers are foreign enterprises, they are also likely to be simply imitating the advanced techniques of production known in the advanced country—techniques that are appropriate for the factor supply of the advanced country, but not for the labor surplus of the less developed country.

Contrary to the Lewis model, the expansion of the modern industrial sector also slowed down in many LDCs. Being based on import substitution, the industrial sector might be expected to have initially a substantial rate of growth as imports are replaced. But this may be a once-for-all expansion, with little subsequent reinvestment—unless the home market continues to grow, the process of import substitution can proceed from the final stages of production down through the production process to the replacement of intermediate goods, or the import-replacement industry is able to gain a competitive advantage in export markets. Such opportunities for the continual expansion of the modern sector have not materialized, and the capital-widening investment of the Lewis model, with an ever-expanding demand for surplus labor, has not been sustained.

At the same time as domestic policies have had the effect of subsidizing capital-intensive import-substitution industries, they have implicitly imposed a levy on domestic agriculture. This has gone against an expansion in labor-intensive agricultural output and a rise in rural employment.

For these various reasons, the employment problem remains a central problem of development.

## Policy Implications

Lewis later recognized the unemployment problem and stated that

> the most important ingredient in employment policy is to prevent too large a gap opening up between wages in the modern and earnings in the traditional sectors. So long as the traditional sector is not disturbed by a large income gap, it can hold and provide for all the people whom the modern sector is not yet ready to employ. . . .
>
> Other ingredients are: measures to prevent excessive capital intensity; avoidance of an overvalued currency; adequate expenditure on developing the countryside; curbing the growth of a few large towns in favor of developing more numerous small urban centers; and a population policy. . . . Deliberate action

[2]Frances Stewart, *Technology and Underdevelopment*, 2nd ed. (1978), p. 46.

to substitute labor for machinery, in accordance with shadow pricing, even if confined to the public sector would go a long way toward eliminating open unemployment.[3]

An entire set of development policies that affect the demand and supply sides of the labor problem should now be of concern. Thus all the remaining chapters will concentrate on the formulation of a set of employment policies by treating the mobilization and allocation of investment resources, agricultural development, industrialization programs, and trade strategy.

At this point, however, it may be useful to offer some general principles underlying possible policy options for the better utilization of labor. Their validity will then be explored in greater detail in subsequent chapters.

1. If urban unemployment is to be reduced, policy measures must reduce the rural–urban drift. To this end, a reduction of urban–rural real income differentials would be most helpful; but this is probably the most difficult objective to achieve. According to some models of labor migration, the larger the gap between urban and rural nominal wages, the higher must be the urban unemployment rate before migration in excess of job opportunities ceases. As long as urban wages rise more rapidly than average rural incomes, rural–urban migration will continue, in spite of rising levels of urban unemployment. All policies that would redress the imbalance between urban and rural income levels would therefore be desirable—urban-wage restraint, adjustment of minimum-wage rates, revision of the tax structure, and a comprehensive national income and wages policy.

A number of institutional and political considerations, however, militate against the efficacy of these policies, and it is not realistic to expect any strong downward pressure on urban wages. An effective "wages policy" has proved difficult in the developed—let alone newly developing—countries.

2. If it is difficult to institute a "wages policy" that would increase urban employment, it is all the more important to emphasize the "supply side" of the problem. When the urban sector cannot absorb the inflow of labor from the rural sector, special consideration must be given to policies that will remove the causes of the rural "supply push" and help contain the labor force in rural areas. Urban problems are in a fundamental sense rural problems; urban "pull" must be offset by lessening the "push" through rural development.

The modern sector must avoid producing what can be produced in the rural sector; for example, village handicraft employment should not be displaced if this entails the wasteful use of capital in the modern sector to produce an output that could be produced equally well by surplus labor. It is instructive that in Japan's case of successful development, both agriculture and village industry became more labor intensive. There may also be a considerably greater scope for rural-based industry involving simple technology and the processing of agricultural materials.

Beyond this, however, a full-scale program of rural development is needed to absorb and retain large amounts of manpower. If the rural–urban migration is to be reduced, it is necessary to modify policies that have turned the terms of trade against the agricultural sector. Ceiling prices on foodstuffs, export taxes or restrictions on primary products, and tariff protection on industrial inputs and consumer goods have acted as disincentives to agricultural producers, while they have artificially increased the urban–rural differential.

Efforts should also be made to disperse to the rural sector some of the amenities and public services now concentrated in urban areas. Readier access to such services as public utilities, health, education, and entertainment in the rural areas may amount to an increase in the rural social wage, and diminish the attractions of the city.

Of greatest consequence will be the type of strategy pursued for developing the agricultural sector. As elaborated in Chapter VIII, the most important factor influencing a developing country's ability to absorb a growing labor force into productive employment is whether a labor-using, capital-saving type of approach to agricultural development is followed (as in Japan and Taiwan). For most developing countries, the employment potential in rural modernization can be greater than that of the modern urban sector—provided that the countries avoid implicit taxation of agriculture and "unduly labor displacing" measures in agriculture.

3. If the previous strategy of industrialization by means of import substitution has resulted in "urban bias"—that is, distortions that favor the urban, import-substituting, modern sector at the

[3] Lewis, *Development Planning*, p. 83.

expense of the rural sector—then in the future, the promotion of nontraditional exports may allow a strategy of industrialization through export substitution that creates more employment, among other advantages. Chapter IX discusses various policies—notably those connected with trade policy and foreign investment—that are needed to make export substitution effective.

The distortions in the price structure also create divergences between domestic and international prices that inhibit the country's exports. To the extent that the comparative advantage of the country lies in labor-intensive commodities, the employment-intensity of trade can be raised by "getting prices right" and by establishing an efficient commodity composition of exports.

4. More effort is also needed to devise a range of technological choices that are superior to the country's indigenous traditional technology, but are not as advanced and labor saving as are the modern machines and equipment that have been imported from advanced industrial countries. As discussed in section VII.C, the transfer of "appropriate" technology has important consequences for employment in both the urban industrial sector and the rural agricultural sector.

The choice of a more labor-intensive production technique may, of course, conflict with other investment criteria; in particular, the maximum absorption of labor may yield only a low return per unit of capital and not maximize the future rate of growth in output.

The crucial consideration is the emphasis on devising new technology that is "capital stretching" in an efficient way; that is, the labor-intensive equipment should raise the labor–capital ratio without also raising the capital–output ratio. A more appropriate technology would in effect retain the essential quality of the tool element in physical equipment without the superfluous labor-saving appendages of the advanced technology of industrial countries.

To lessen the bias toward relatively capital-intensive techniques, it is again necessary to stress the removal of factor price distortions. Given that there is a positive elasticity of substitution of labor against capital,[4] it would become less profitable to use capital-intensive technologies if interest rates were increased, foreign exchange became more expensive in terms of home currency, and the increases in urban wages were restrained.

5. As long as labor is induced to migrate from the rural sector and the manufacturing sector cannot absorb labor in sufficient quantities, it will be necessary for labor to seek employment in the tertiary sector. Labor has done so in many LDCs, and employment in services and commerce has actually risen more rapidly than in other sectors.

From the standpoint of providing an employment outlet, it is therefore advisable not to promote too rapid an increase in efficiency in employment practices in the service sector. As remarked by Galenson,[5] the pushcarts should not be too readily replaced by the supermarket; the bicycles, by the trucks; a casual but large labor force, by a permanent and stable but smaller labor force. The inefficient use of labor in the tertiary sector will not, of course, have the undesirable cost effects that would occur if this were done in the import-replacement or export sectors. In the production of nontradable commodities, it may therefore be important to be unimportant about seeking the least cost combination of factors when this would displace labor.

Emphasizing that "Asian countries will be forced to develop the labor-intensive sectors if jobs are to be created for the increasing waves of youngsters coming into the labor market," Oshima has stated that

> the nonagricultural labor-intensive sector is very large, perhaps engaging two-thirds to three-fourths of the nonagricultural labor force. It is a sector that provides employment using the least amount of capital, in terms of capital efficiency uses the less scarce type of capital and saving, requires material inputs which are domestically produced, utilizes labor not appropriate for modern industries, and produces goods of the traditional type, consumed by lower-income families located in various parts of the country instead of being concentrated in the cities. It is an excellent complement to modern industrialization for underdeveloped countries where modern types of inputs and factors are scarce—whether these be capital and savings, skills, infrastructure, inputs, etc.[6]

[4]For a careful empirical study that suggests that considerable substitution possibilities exist in a number of manufacturing industries, see Howard Pack, "The Employment–Output Trade-Off in LDCs—A Microeconomic Approach," *Oxford Economic Papers* (November 1974).

[5]W. Galenson, "Economic Development and the Sectoral Expansion of Employment," *International Labour Review* (January–June 1963): 505–19.

[6]Harry T. Oshima, "Labor-Force 'Explosion' and the Labor-Intensive Sector in Asian Growth," *Economic Development and Cultural Change* (January 1971): 178.

6. Finally, more attention must be given to the "supply side" of the problem in terms of population-control policy and the "outputs" of the country's educational system. Growth in the labor force is a derivative of the population growth rate and the labor participation rate. But since there is about a 15-year lag between a decline in the birth rate and a decline in the labor force entry rate, any deceleration of population growth can have only long-run effects and is not a relevant instrument for short-term policy. Investment in human capital may, however, influence employment more readily. In this connection, some relevant points will be noted in Chapter VI, on human-resource development.

From even this summary listing of policy implications, it should be apparent that employment policies make sense only within the context of an overall development strategy. In contrast with the original formulation of Lewis's dual-sector model, more attention must now be given to the importance of human-resource development, the role of agriculture in transforming the production structure, qualitative changes in the development process beyond the quantitative aspects of economic growth, and the significance of markets and prices.

Effective policies to overcome the real resource gap in a poor country are still fundamental, as discussed in the next two chapters (IV and V). Beyond that, however, we must consider policies for human-capital formation (Chapter VI), agriculture-industry production transformation (Chapters VII and VIII), trade strategy (Chapter IX), and the respective roles of markets and governments (Chapter X).